

Amendments to the Claims

Please amend claims to be as follows.

1. (currently amended) A system for power management of a rack of computers, the system comprising:
server side infrastructure (SSI) circuitry at each computer in the rack, the SSI circuitry including local monitoring circuitry coupled to a central processing unit (CPU) of the computer; and
a centralized power management module (CPMM) with an out-of-band (OOB) management link to the SSI circuitry at each computer in the rack,
wherein the CPMM is configured to monitor power being consumed by the CPUs by sending a polling message to the SSI circuitry at each computer in the rack,
wherein the local monitoring circuitry within the SSI circuitry at each computer in the rack is configured to monitor power consumption at the CPU and to respond to the polling message from the CPMM by transmitting a root mean squared power consumption value to the CPMM, and
wherein the CPMM is further configured to apply a set of rules to the root mean squared power consumption values from the local monitoring circuitry to determine when and at which computers to enable and disable a CPU power throttling mode, and wherein there is hysteresis between entry and exit of the power throttling mode such that power consumption values which induce throttling are higher than power consumption values at which throttling is removed.
2. (previously presented) The system of claim 1, wherein the rack of computers comprise servers mounted in the rack.

3. (previously presented) The system of claim 1, wherein the rack of computers comprise a plurality of blade servers in a blade chassis.
4. (canceled)
5. (original) The system of claim 1, further comprising: a console coupled to the CPMM for user interaction.
6. (original) The system of claim 5, wherein the console comprises a console connected locally to the CPMM.
7. (original) The system of claim 5, wherein the console comprises a remote console coupled via a network to the CPMM.
8. (original) The system of claim 5, wherein the system is configured to enable a user to setup the aforementioned rules by way of the console.
9. (original) The system of claim 5, wherein the system is configured to enable a user to view power consumption data by way of the console.
10. (previously presented) The system of claim 1, further comprising: additional CPMMs with management links to SSI circuitry at additional racks of computers; and a power management system coupled to the plurality of CPMMs.
11. (original) The system of claim 10, wherein the power management system is configured to enable a user to view power consumption data and to customize the sets of rules applied by the CPMMs.
12. (currently amended) A server-side apparatus for a rack-mounted computer, the apparatus comprising:

local monitoring circuitry coupled to a central processing unit (CPU) of the computer and coupled to a centralized power management system which is configured to manage power for a rack of computers, wherein the local circuitry is configured to monitor power consumption at the CPU, transmit power consumption data to the centralized power management system, receive out-of-band polling messages from the centralized power management system, respond to the polling messages by transmitting a root mean squared power consumption value to the centralized power management system, and send commands to enable and disable a power throttling mode at the CPU, and wherein there is hysteresis between entry and exit of the power throttling mode such that power consumption values which induce throttling are higher than power consumption values at which throttling is removed.

13. (original) The apparatus of claim 12, further comprising: a power measurement link between the local monitoring circuitry and the CPU for monitoring power consumption at the CPU.
14. (original) The apparatus of claim 13, further comprising: an interrupt line between the local monitoring circuitry and the CPU for transmitting interrupt messages that enable and disable the power throttling mode at the CPU.
15. (original) The apparatus of claim 13, further comprising: a special register writable by the local monitoring circuitry and readable by the CPU to enable and disable the power throttling mode at the CPU.
16. (currently amended) A central power management apparatus for a rack of computers, the apparatus comprising: a management module coupled via an out-of-band link to local monitoring circuitry at each computer in the rack,

wherein the management module is configured to transmit polling messages to the local monitoring circuitry, receive ~~root mean squared power consumption~~ temperature values from the local monitoring circuitry in response to the polling messages, determine at which computers to enable and disable a CPU power throttling mode, and transmit messages to said determined computers to enable and disable the CPU power throttling mode.

17. (currently amended) A method for power management of a rack of computers, the method comprising:
monitoring power consumption at each computer in the rack;
receiving polling messages at each computer in the rack; and
responding to the polling messages by transmitting a root mean squared power consumption value from each computer in the rack to a single centralized power manager,
wherein there is hysteresis between entry and exit of a power throttling mode at each computer such that power consumption values which induce throttling are higher than power consumption values at which throttling is removed.
18. (previously presented) The method of claim 17, further comprising:
transmitting messages via an out-of-band link from the centralized power manager to local circuitry at said determined computers to enable and disable the CPU power throttling mode at those computers;
and
applying a configurable set of rules to the power consumption data to determine at which computers to enable and disable a CPU power throttling mode.
19. (previously presented) The method of claim 18, wherein the rack of computers comprises a rack of servers.

20. (currently amended) A centralized method for managing power consumption of a rack of computers, the method comprising:
transmitting polling messages to local monitoring circuitry at each of the computers in the rack;
receiving responses to the polling messages from the local monitoring circuitry at each of the computers in the rack, wherein the responses include ~~root mean squared power consumption temperature values~~;
determining at which computers to enable and disable a CPU power throttling mode; and
transmitting messages to said determined computers to enable and disable the CPU power throttling mode.
21. (previously presented) The method of claim 20, wherein the rack of computers comprises a rack of servers.
22. (currently amended) A power management apparatus for managing power usage of a rack of computers, the apparatus comprising:
means for transmitting polling messages to the local monitoring circuitry;
means for receiving responses to the polling messages from the local monitoring circuitry, wherein the responses include root means squared power consumption values;
means for determining at which computers to enable and disable a CPU power throttling mode; and
means for transmitting messages to said determined computers to enable and disable the CPU power throttling mode, wherein there is hysteresis between entry and exit of the CPU power throttling mode such that power consumption values which cause entry into the CPU power throttling mode are higher than power consumption values which cause exit of the CPU power throttling mode.

23. (previously presented) The apparatus of claim 22, wherein the means for transmitting messages comprise out-of-band links to the local monitoring circuitry.